

The new British Transport Police Custody Suite



Inspector John Purcell joined the Met Police in 1990. He transferred to British Transport Police in 1998 to take on a new challenge at the national force for the railways. John, an experienced Police Inspector works on the London North Area of BTP and his most recent job has been to manage the construction of a brand new custody facility in Brewery Road, Islington.

The facility is being built within an existing commercial building using modular techniques by a company called Britspace. This idea is a new innovation for custody and could be the answer to providing custody units at a lower cost than conventional buildings in an inner city area. The site was full of building materials, dust and contractors when we visited, which gave us a good look at the structure and what lies behind the walls. This is important because this is a custody suite that has been built within an existing building.

Custodial Review: CR John Purcell: JP

CR The new custody suite you have just shown me around, what has it replaced and why?

JP The BTP has never had a substantial custody capacity at any time in its history. So this does not replace anything, it is new capacity. As the national police force for the railways we deal with a lot of prisoners on any given day and, what with the Olympics happening in 2012 it was decided that the building of our own custody facility was a sensible move from a strategic point of view. Before now we only had 14 cells dedicated to BTP work, these were 10 based at the London Underground facilities and 4 based in south London.

CR So if you wanted to lock someone up, what did you do?

JP We use the nearest Police custody suite, we are policemen with all their statutory duties and powers, so the nearest custody suite is always available. However this arrangements can adversely impact on a custody suite if we are constantly utilising their cells because they are closest to a major station.

CR So why not continue with that system and have larger custody units all over London?



Front of the custody suite. The vehicle dock is the 2nd door from the left

JP It's not just locking someone up. BTP officers prefer to have their own facilities; it's more efficient in terms of paperwork and IT systems. It also cuts down the amount of travelling to interview suspects and enables us to work more efficiently. It also frees up custody space for the local police forces.

CR So why were you chosen as the .BTP 'liaison' and project management officer?

JP Most of my background is in the operational side of the job. I've been on response, public order and general duties, so I have the knowledge of what is needed. Some time ago I was asked to do some of the project work regarding relocating our response teams away from the main line stations and basing them centrally. It was implemented and worked and I got the job. As with all officers looking to



The booking in desk W-I-P



One of the ancillary rooms - note the panic strip



Solar tube light diffusers are fitted throughout the suite



Britspace had a tight area to work in

further their career, this was also a chance for me to gain valuable experience in a new and exciting sphere of police work. The London north area, where I work, had zero cell capacity in its area until now. I was asked to put together a business case for creating the extra capacity that was deemed necessary. To cut a very long story short I talked to many people and looked at the issues, wrote a paper and presented it to the then Assistant Chief Constable on recommendation from the Area Commander.

CR What did you decide was needed and what has been built?

JP The two answers are very much the same., Twenty cells, Promat capture facility, two exercise yards, search room, holding room and seven interview rooms - six of which are

standard PACE sized rooms - and the other one is a larger one which gives more space should an interpreter and/or an appropriate adult need to be present. Should the nationwide roll out of the virtual court system happen, then that room can also be adapted to be used for that purpose. We also have office space where reports can be written. The whole facility is covered by the latest CCTV which stores for 90 days.


CR What was the site being used for when you acquired it?

JP It was a warehouse that was used by Edexcel, the company that marks exam papers. It was full of millions of past papers and areas where examiners could sit and do the marking of GCSE and A level papers. It's a huge building.

Approximately 1400 sq meters or 14000 sq feet of internal space, that space was ideal for our needs.

CR So why didn't you just level the site and start again from the ground up, why did you build your new suite inside the building?

JP There were two major reasons. The first being that we have a responsibility to spend the public's money very wisely, especially in these times of economic uncertainty. On examination of the situation we found that it was far more cost effective to achieve the stated aims by doing it the way we have. The second reason is due to the planning laws. This way we were able to obtain change of use for an existing building and did not need to go to the expense of a full planning application.






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A cell corridor note the Cell Security doors.



A cell and its services



A disabled toilet



Note the solar tubes- used throughout the building



This will be a storage area

CR Why build it where you did? Why not move further out of the centre of town?

JP Moving out was not an option, it needed to be within easy reach of the BTP London North areas main rail transport hubs. It's also ideal in terms of position because we have the London North Area HQ just 100 yds down the road. Land is expensive around here, the Kings Cross area is one of the largest building sites in Europe at the moment. The arrival of the Eurostar terminal and the developments around Euston have seen to that. So finding a suitable site was never going to be easy or cheap. This site was almost too good to be true for the function we wished to use it for. Building inside the existing warehouse was also a lower cost option from a construction point of view. We do not have to put in external walls, footings or a complete roof.

CR Having found the building what was the decision making process. Was it a case of 'we have this much space so let's fit what we can into it?'

JP We knew the budget, that was the first constraint. Then we went through the Home Office guidelines to establish what was needed in terms of space, equipment and fittings. We needed to know minimum sizes, security considerations, DDA requirements. From that we knew what we could have and it was at that point we knew that the building was large enough for our needs. In fact the building is too big, so we have some space to grow into as new requirements become essential. Then it was down to working with the architects to put it together in a way that enables it to operate efficiently. The first set of drawings showed all the space used up, however it was

not necessary to do this and so we have the cell and administration capacity you see today plus room for expansion.

CR The method of construction is interesting. It seems like the existing structure of the building was refurbished and then the cells and rooms were built elsewhere and craned in?

JP That is mostly the case. All the cells, offices and interview rooms were prefabricated by Britspace at their factory in Yorkshire and trucked to the site. It only took six days for all of them to be craned into position and bolted together. Most of the services were already built into the units and it was simply a case of connecting them to the supplies. All the air-conditioning and duct work, the natural light pipes and flooring is being done on site. All the work in the connecting corridors has to be done here too.

CR Technology usage, how much has there been and is there anything particularly innovative? Is the building management system tied into the locking system for instance? And what have you done regarding being energy efficient?

JP It's fully access controlled, staff use proximity cards to access doors and their access is limited by their job function. There is a comprehensive CCTV and audio system throughout the suite. Each cell has it as do all the corridors, the booking in area and the vehicle dock. Though the cells and interview rooms are CCTV only, no audio. This was all done by a company called TEW + who have worked with the BTP on several projects. When a room is unoccupied the CCTV system recognises it and only takes one picture per second. As soon as it detects movement, or an alarm or panic

strip is pressed, then it records at full twelve frames per second. This procedure keeps the amount of images recorded to a required minimum. We have made extensive use of light tubes to bring natural light into each cell and the booking in area. Because we are a building within a building the light tubes will bridge the gap between the exterior roof and the interior ceiling. The natural light they transport is quite amazing; it is enough to read by. It saves money on energy and helps us achieve the safer custody guidelines that state a person in custody should have access to natural light.

CR I noticed during the guided tour that there are hidden corridors and passageways throughout the building. This is because you have a building within a building. Does this cause a security issue and if so how do you tackle it?

JP These corridors and the spaces in the roof voids are essential for maintenance access. There is a huge amount of kit and equipment in the area above the cells and offices. It's a requirement that should work be required, or equipment need to be replaced that the work does not disrupt the activities in the custody suite, or compromise its security. Another reason is that we built the suite within a budget, and so there is a certain amount of unused space. From a security aspect it makes the building even more secure as there are two walls to get through. The cell modules are three mm steel lined with wood and the doors are extra heavy duty. I let some of our more burly staff loose on a mock up to see if they could break out. They didn't.

CR Disability access is an important requirement in any building these days, what has been done here and how did you go about

deciding what action to take?

JP The first job was to make sure we knew what was needed under the law and in addition what was needed from a common sense point of view. Therefore the whole building is easily accessible to wheelchair users with the exception of the maintenance access areas and one upstairs room that houses the CCTV recorders and server room. Facilities for disabled staff and prisoners are available throughout the building. We have a cell that is adapted for a disabled person however the only difference between it and the other cells is that the bed is slightly lower and the toilet has a seat that can be easily slid on to by a wheelchair user. It also has a lower call strip next to the bunk.

CR Many forces outsource their custody staff, will this be the case here?

JP No, all the staff that are to be employed here are BTP employees. There are no contracts for custody staff being envisaged. There will be five custody teams that will consist of one Sergeant, and three dedicated detention officers. All these are at present undergoing training and as this is a new unit we have sent them to other custody suites to gain practical experience.

CR Have you had any difficulties over the increased number of vehicles that will be using the access road?

JP It's already a very busy road. We have the Islington ambulance service depot a little further down the road. There is little in the way of residential traffic and it's not envisaged that the amount of vehicle movements we will create will impact detrimentally on the area. This is because we are a custody unit and we

will not be reacting to emergency calls. Having said that we have an operational order out that states alarms and emergency lights must be turned off on entering the road. There is a school whose playground backs on to the property, so the order will minimise any disruption to them as well.

CR How future proof is the building?

JP In many respects we have over engineered the building to make it future proof. For example the PACE interview rooms here are equipped with the older tape recording equipment. The Police have only just received clearance to use network recording. We have installed the network cabling so that when we do move over to the network system it is simply a case of plugging the equipment in to the existing data ports. There will not be any wiring required. There is a small amount of leftover space in the materials storage area if another unforeseen requirement comes along.

CR No one who watches programmes like 'Grand Designs' can be in any doubt that any work has its unexpected surprises. What did you have to contend with that wasn't planned, or budgeted for?

JP We had a real set of problems that started with us finding asbestos under the concrete floor slab. We had core samples taken and examined prior to the purchase of the property and they had all come up blank. It seems that when it was laid in the 1950's they buried sheets of the material. We had to cut through the slab to put services in and this is when we discovered the materials. This meant that a big chunk of the floor had to be removed, the huge amount of asbestos taken out and disposed of properly. Then we had a problem when we

wished to fill the resulting hole as we have five tunnels running under this property. Two are disused railway lines, the east coast main line and two tube lines. We were not sure how deep they were either. The plans were almost impossible to find for the older tunnels, they haven't built tube train tunnels for almost 100 years in this area. We had a real problem finding out how we were going to fill this large hole without putting undue strain on the tunnels.

CR You must have known that the tunnels were there when you brought the property?

JP Yes we did, however because we were building the custody suite inside an existing building we were not going to rip the floors up in any meaningful way. We also has the core samples that showed the under floor area did not contain any undesirable substances. So it wasn't envisaged we would need to do anything except put the prefabricated units onto the existing floor slab. We had to speak to network rail to establish how to repair the floor. This required a structural engineer to design a way of spreading the load without damaging the tunnels.

CR Has this affected the projects anticipated completion date?

JP Yes, we have slipped back by eight weeks in terms of a completion date and its cost about 3% in terms of cost overruns. Which I'm told is quite acceptable when building on a brownfield site. It's also a new concept for the police; I'm told that no other force has built a new custody suite inside an existing commercial building. From the amount of interest shown I'm sure we will be seeing a lot of other Police forces following our lead.

Thank you for talking to the Review.

Modular Cells



David Harris

Britspace is predominantly an off-site manufacturer of full volumetric modular buildings. They have a variety of building solutions but typically use structural steel frames that are certified as permanent buildings. They also use alternative materials depending on what the requirements are for the specific project they are working on. Their claim is to use 'intelligent construction'.

We had been invited by the BTP for a look around their new custody unit and we wanted to find out more about the methods of construction. Modular buildings have been around for some time; however the concept of using them to create a custody suite in an existing warehouse in the middle of a small industrial estate is a new one. We spoke to David Harris the MD of Britspace to find out how his company did the job..

Custodial Review

Q The British Transport Police custody unit site is an interesting development, how did you get involved in the project?

David Harris

A Four years ago we developed a modular steel product that fulfilled the custodial requirements for cell construction. This means we can manufacture finished cells within our factory and then deliver them to site. BTP had a long standing requirement for their own custodial capacity because at certain times of year, such as carnival time, they had a lot of



The modular cell units under construction

people being arrested and had to then detain them in custody centres throughout the capital. From an administration point of view it was an extremely costly and inefficient system. To solve these problems they decided to open up a site near the main north London train stations, which would allow them to have their own full custody suite facilities with twenty detention cells.

Q You have called it a 'clever conversion', and an 'innovative use of space'- why? Were you told by BTP what they wanted or were you given the design and told to 'build this'?

A It's a clever conversion mainly because it is being built inside an existing warehouse, so it does not require full planning permission, only change of use. This 'building within a building' also means that the exterior of the custody suite has already been built. BTP acquired the

building and gave us the requirement for the usage, number and type of rooms they wanted. We then developed the design, layout and footprints. BTP had a big involvement with us in this design stage of the development. They proposed some changes and we developed the scheme to suit their exact requirements.

Q Were there any issues with the design and construction of the modular units that make up the custody suite?

A Yes. The Home Office guidelines for Police cell construction are written for masonry buildings. We manufacture in steel so there were certain areas we had to agree changes to. This was to enable us to make it in a steel frame form of construction that would still meet the Home Office regulations. However we had already done a lot of this work as we have provided over 600 of these units during the recent prison expansion programmes.

Q How hard is it to work in compliance with NOMS and MOJ standards, are there any particular needs or requirements you have to work to?

A Yes it is sometimes quite awkward, and there is often a conflict in the client's requirements of what they actually want. You have to balance it correctly on all sides as remedial work is prohibitively expensive. The specifications change quite often, for instance there is now a requirement for natural light to be available in cells. It's important to be fully up to date on the requirements.

Q From a point of view of build speed, how much quicker was it than building traditionally from scratch? How much longer would it have taken to build this custody suite conventionally and how much more expensive would it have been?

A My understanding is that it would have taken over twice as long to build, and from talking to the client I believe we were around twenty percent more cost effective than doing it in 'the old way'.

Q Was it an existing modern warehouse? Were the cell units built in your factory and then trucked

to the site, how much does each of these units weigh? How finished were they, did they have the doors, fittings, lights and mirrors in?

A The warehouse was fairly modern; however it needed a new roof. The modular cells are of an all steel construction. There is a steel frame which is then in-filled with external steel wall panels. These are lined internally with more sheet steel. Then they are boarded out with different finishes which can be timber and impact resistant plasterboard to give the cell the full break-out resistance that is required. It varies but typically they each weigh around ten tonnes. What we usually do is make sure it comes out finished, with the sanitary wear, doors on and services in the duct areas. We typically leave the last coat of decoration for site after the transport and movement of the cell module to the site.

Q There were seven modules that weren't cells, what were they and how did you build them?

A It's rare that an entire project lends itself perfectly to factory manufacture. We identified the non standard units from the plans. These were the interview, photography, medical, changing and waiting areas, shower rooms and booking in areas. We still designed and built these at the factory; if they were too large to transport complete we built them in 'Flat Pack' form and assembled them on site.

Q Above the modular units there is the world supply of plant and pipe! It looks like the engine room on the Titanic! What is the need for all that?

A There are a lot of services needed to run a custody suite and all the services have to be accessible for maintenance without stopping the use of the cells. The area between the top of the cells and the buildings roof is ideal as a plant room. In addition a lot of what you have seen above the cells are the light tubes that are required to bring natural light into each cell and the booking in areas.

Q Did you use any existing parts of the building as they were or was it all made with modular units?

A At one end of the building there were office areas and some existing walls, rather than knock them down and re-create we refurbished them to create staff toilet areas and office space.

Q There seem to be some fabulous advantages to this method of modular construction and craning the units into an existing building, what are its biggest selling points?

A Speed and cost! Buying a suitable existing building and converting it to suit your requirements by building finished units off site and then craning them in is a very cost effective and flexible method of providing a new facility. It gives organisations the opportunity to buy or rent a commercial warehouse and then adapting it as required. Building it off-site gives labour efficiencies and a far higher accuracy of build. It's much easier to achieve these in a factory than having to construct from scratch



Note the services access door.



Inside one of the twenty cells

in a city centre location. There is also a lot less time on site. So construction costs are lower, as is any disruption to the locality.

Q Construction may be easier in a factory however you are talking about dropping twenty seven modules, which is 270 tonnes of weight onto an industrial unit floor. Are there any specific requirements for this, is 270 tonnes over that area a lot of weight and is it as simple as that?

A It's not as simple as it sounds as all buildings will need some adaptation to enable services to be installed. In addition a new roof may be required. This was necessary at the BTP site. We have to remove the roof to crane in the modules, so it makes sense to ensure the roof will last as long as the modules will. Floor loading can be an issue and it depends on very much how the building is constructed however most industrial units are constructed with floors that can easily handle the weight. At this particular site there were a number of floor problem areas as it was built on top of an underground tube line and there were certain areas of the floor which had to have more work done to take the weight.

Q What do you say to people who say that this isn't a 'proper way' of building a cell or custody suite?

A We have built over six hundred cells over the last three years for the Prison Service. Which is where the concept started. We have worked in Littlehey, Rochester, Blundeston, Kirklevington, Wealstun and also Gartree. It's a system that has been tried and tested in the most demanding of environments.

Q When will the contract be finished?

A Due to the unexpected floor issues it's running a few weeks late- but on budget. However we will have finished all installation and made good the forecourt and surrounding areas by the end of October.

Thank you for talking to the Review.

**For more information contact Emma Cade at Britspace
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Craning in the modular cell units